

REMARKS

1. Introduction

In the Office Action mailed July 17, 2006, the Examiner: (i) rejected claims 1, 2, 8, 10, 12, 18, 19, 20, 22, 23, and 24 under 35 U.S.C. § 103(a) as being unpatentable over Sakoda et al., U.S. Patent 6,888,789, (“Sakoda”) in view of Raleigh et al., U.S. Patent 6,452,981, (“Raleigh”) (Office Action, page 2); (ii) rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Sakoda in view of Raleigh by further reasoning that “it is well known in the art that the shape of the constellation does not affect the self-similarity property” (Office Action, page 5); and (iii) objected to claims 3-7, 11, 13-17, 21, and 25-42 as being dependent on a rejected base claim, but further indicated that these claims would be allowable if rewritten in independent form including the limitations of the base claim and any intervening claims (Office Action, page 5). Applicant has amended claims 1, 2, 18, 19, 22, 23, 25, 26, 27, 34, and 42. As explained more fully below, the Examiner has acknowledged that the prior art does not contain all the elements of the pending claims, and thus, the amendments presented herein are not required to overcome the prior art. Rather, the claims have been amended to more distinctly claim and particularly point out what applicant regards as his invention. Applicant requests reconsideration and allowance of the rejected and objected claims for the reasons set forth below.

2. Response to the Claim Rejections and Objections

(a) **Claims 1-18**

Of these claims, claim 1 is independent. The Examiner rejected claim 1 under § 103(a) as unpatentable over Sakoda in view of Raleigh. (Office Action, page 3) Applicant submits that

the rejection is improper and should be withdrawn because the combination of Sakoda and Raleigh does not teach each and every element recited in the claims, as set forth below.

Claim 1 recites, *inter alia*, “selecting the bit load per sub-channel based on the self-similarity property of the constellation.” The Examiner acknowledged that “Sakoda et al. does not disclose in (sic) selecting the bit load per sub-channel based on the self-similarity property of the constellation.” (Office Action, page 3) Instead, the Examiner cites to Raleigh as teaching this element. (Office Action, page 3) However, the Examiner’s cited sections of Raleigh do not show or suggest Applicant’s claimed step of “selecting the bit load per sub-channel based on the self-similarity property of the constellation.” Raleigh does not mention self-similarity anywhere in the disclosure, much less describe a method of bit loading a sub-channel based on the self-similar property of the constellation. Indeed, the Examiner even acknowledged that “[p]rior art references...fail to teach...determining a bit load per sub-channel based on the self-similarity property of the constellation.” (Office Action, page 7)

Therefore, Applicant submits that the combination of Sakoda and Raleigh does not show or suggest all of the steps recited in claim 1. Accordingly, Applicant submits that claim 1 is allowable over the combination of Sakoda and Raleigh for at least the reasons above.

Additionally, Claims 2-18 depend from claim 1. Accordingly, Applicant further submits that claims 2-18 are allowable for at least the reason that they depend from an allowable claim.

(b) Claims 19-22

Of these claims, claim 19 is independent. The Examiner rejected claim 19 under § 103(a) under the same reasoning as claim 1, stating “[w]ith regard to claim 19, see rejection of claim 1.” (Office Action, page 4) Applicant submits that the rejection is improper and should be withdrawn because the combination of Sakoda and Raleigh does not teach each and every

element of claim 19 for the same reasons that the combination of Sakoda and Raleigh does not teach each and every element of claim 1.

Claim 19 recites, *inter alia*, “selecting the bit load for the channel based on the self-similarity property of the constellation.” In rejecting claim 1, the Examiner acknowledged that “Sakoda et al. does not disclose in (sic) selecting the bit load per sub-channel based on the self-similarity property of the constellation.” (Office Action, page 3) Instead, the Examiner cites to Raleigh as teaching this element. (Office Action, page 3) However, the Examiner’s cited sections of Raleigh do not show or suggest Applicant’s claimed step of “selecting the bit load for the channel based on the self-similarity property of the constellation.” Raleigh does not mention self-similarity anywhere in the disclosure, much less describe a method of bit loading a channel based on the self-similar property of the constellation. Indeed, the Examiner even acknowledged that “[p]rior art references...fail to teach...determining a bit load...based on the self-similarity property of the constellation.” (Office Action, page 7)

Therefore, Applicant submits that the combination of Sakoda and Raleigh does not show or suggest all of the steps recited in claim 19. Accordingly, Applicant submits that claim 19 is allowable over the combination of Sakoda and Raleigh for at least the reasons above. Additionally, Claims 20-22 depend from claim 19. Accordingly, Applicant further submits that claims 20-22 are allowable for at least the reason that they depend from an allowable claim.

(c) Claims 23-25

Of these claims, claim 23 is independent. The Examiner rejected claim 23 under § 103(a) under the same reasoning as claim 1, stating “[w]ith regard to claim 23, see rejection of claim 1.” (Office Action, page 4) Applicant submits that the rejection is improper and should be withdrawn because the combination of Sakoda and Raleigh does not teach each and every

element of claim 23 for the same reasons that the combination of Sakoda and Raleigh does not teach each and every element of claim 1.

Claim 23 recites, *inter alia*, “selecting the bit load for the channel based on the self-similarity property of the constellation.” In rejecting claim 1, the Examiner acknowledged that “Sakoda et al. does not disclose in (sic) selecting the bit load per sub-channel based on the self-similarity property of the constellation.” (Office Action, page 3) Instead, the Examiner cites to Raleigh as teaching this element. (Office Action, page 3) However, the Examiner’s cited sections of Raleigh do not show or suggest Applicant’s claimed means for “selecting the bit load for the channel based on the self-similarity property of the constellation.” Raleigh does not mention self-similarity anywhere in the disclosure, much less describe a means for bit loading a channel based on the self-similar property of the constellation. Indeed, the Examiner even acknowledged that “[p]rior art references...fail to teach...determining a bit load...based on the self-similarity property of the constellation.” (Office Action, page 7)

Therefore, Applicant submits that the combination of Sakoda and Raleigh does not show or suggest all of the steps recited in claim 23. Accordingly, Applicant submits that claim 23 is allowable over the combination of Sakoda and Raleigh for at least the reasons above. Additionally, Claims 24 and 25 depend from claim 23. Accordingly, Applicant further submits that claims 24 and 25 are allowable for at least the reason that they depend from an allowable claim.

(d) Claims 26-42

Of these claims, claim 26 is independent. The Examiner objected to claim 6 “as being dependent upon a rejected base claim” but indicated that claim 26 “would be allowable if rewritten in independent form including all of the limitations in the base claim and any intervening claims.” (Office Action, page 5) Applicant submits that the objection is improper

and should be withdrawn because claim 26 is an independent claim. Moreover, Applicant submits that claim 26 is in condition for allowance because, as the Examiner acknowledged, the “[p]rior art references...fail to teach...‘means for determining a bit load per sub-channel based on the self-similarity property of the constellation based on forward error correction parameters; and means for selecting a bit load based on the coding gain,’ as in claim 26.” (Office Action, page 7) Accordingly, Applicant submits that claim 26 is allowable for at least the reasons above. Additionally, Claims 27-42 depend from claim 26. Accordingly, Applicant further submits that claims 27-42 are allowable for at least the reason that they depend from an allowable claim.

3. **Conclusion**

Applicant submits that the present application is in condition for allowance, and notice to that effect is hereby requested. Should the Examiner feel that further dialog would advance the subject application to issuance, the Examiner is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,

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By: /Robert J. Irvine III/
Robert J. Irvine, III
Reg. No. 41,865